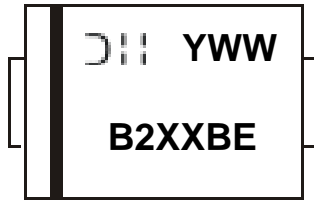


## Marking Information (Cont.)

SMB



B2XXBE = Product Type Marking Code, ex: B220BE

= Manufacturers' Code Marking

YWW = Date Code Marking

Y = Last Digit of Year (ex: 7 for 2017)

WW = Week Code (01 to 53)

## Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Characteristic	Symbol	B220AE B220BE	B230AE B230BE	B240AE B240BE	B245AE B245BE	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>RM</sub>	20	30	40	45	V
Average Rectified Output Current	I <sub>O</sub>	2				A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	50				A

## Thermal Characteristics

Characteristic		Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	SMA	R <sub>θJA</sub>	95	°C/W
	SMB		90	
Typical Thermal Resistance Junction to Case (Note 5)	SMA	R <sub>θJC</sub>	45	°C/W
	SMB		40	
Operating and Storage Temperature Range		T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	—	0.46 0.41	0.50 —	V	I <sub>F</sub> = 2A, T <sub>J</sub> = +25°C I <sub>F</sub> = 2A, T <sub>J</sub> = +125°C
Leakage Current (Note 6)	I <sub>R</sub>	—	—	0.1	mA	V <sub>R</sub> = 20V, T <sub>J</sub> = +25°C
B220AE / B220BE		—	—	0.1		V <sub>R</sub> = 30V, T <sub>J</sub> = +25°C
B230AE/ B230BE		—	—	0.2		V <sub>R</sub> = 40V, T <sub>J</sub> = +25°C
B240AE/ B240BE		—	—	0.2		V <sub>R</sub> = 45V, T <sub>J</sub> = +25°C
B245AE/ B245BE		—	15	—		V <sub>R</sub> = 45V, T <sub>J</sub> = +125°C
Typical Capacitance	C <sub>T</sub>	—	93	—	pF	V <sub>R</sub> = 4.0V, f = 1MHz

 Notes: 5. Device mounted on FR-4 substrate, 0.4" x 0.5", 2oz, single-sided, PC boards with 0.2" x 0.25" copper pad.  
 6. Short duration pulse test used to minimize self-heating effect.

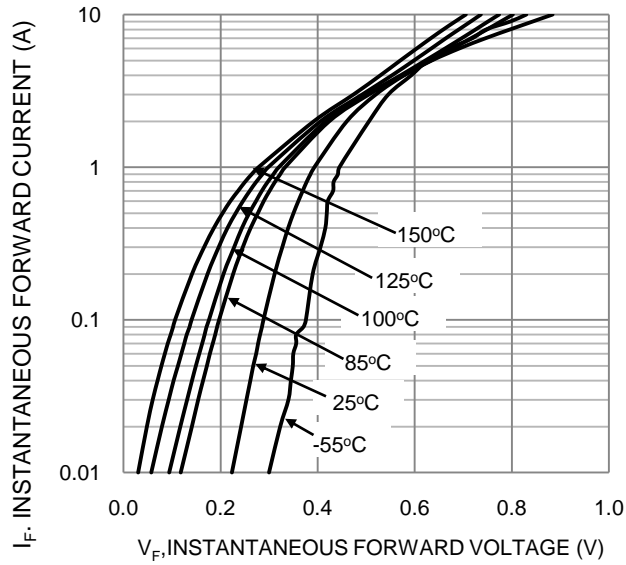


Figure 1. Typical Forward Characteristics

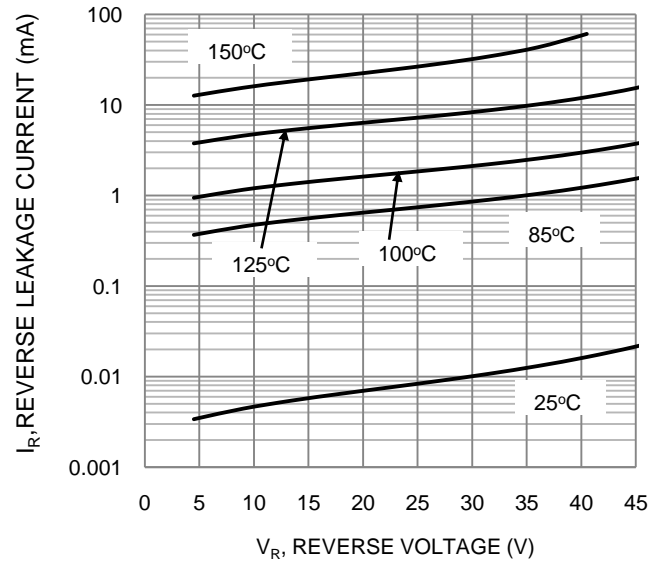


Figure 2. Typical Reverse Characteristics

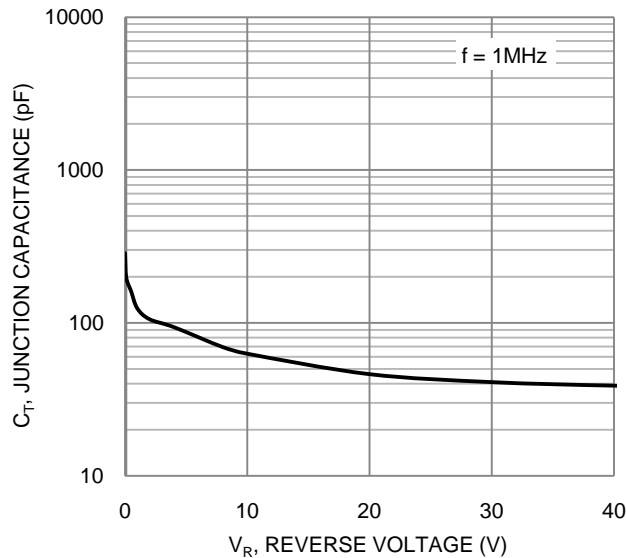


Figure 3. Typical Junction Capacitance

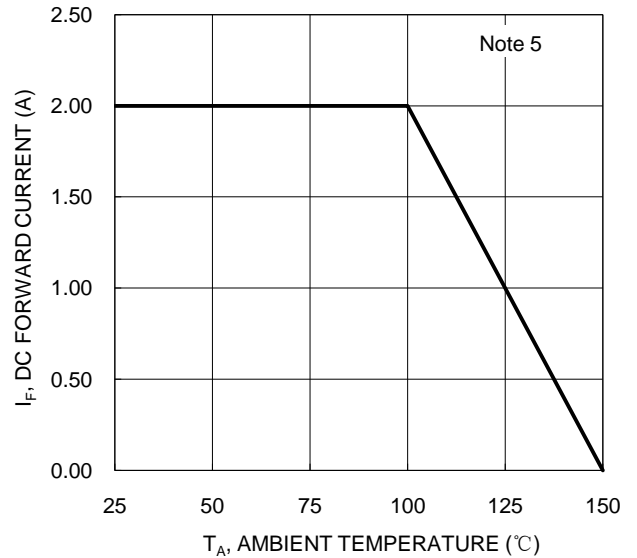
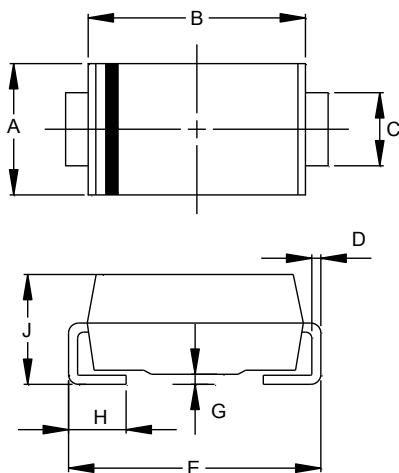


Figure 4. DC Forward Current Derating

## Package Outline Dimensions

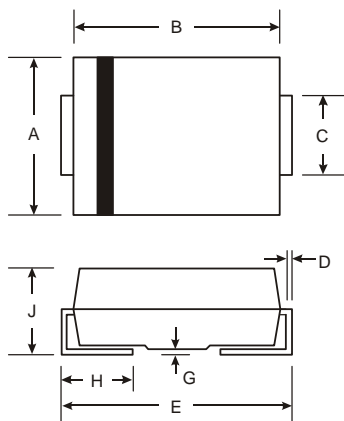
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### (1) Package Type: SMA



SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	1.96	2.40
All Dimensions in mm		

### (2) Package Type: SMB

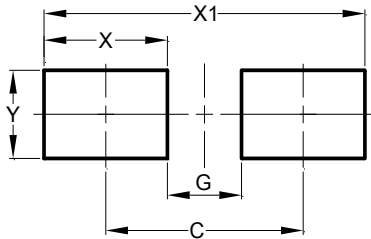


SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

## Suggested Pad Layout

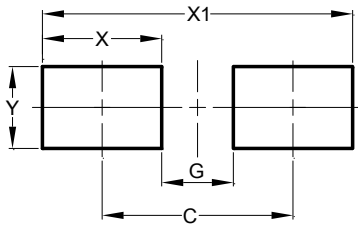
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### (1) Package Type: SMA



Dimensions	Value (in mm)
<b>C</b>	4.00
<b>G</b>	1.50
<b>X</b>	2.50
<b>X1</b>	6.50
<b>Y</b>	1.70

### (2) Package Type: SMB



Dimensions	Value (in mm)
<b>C</b>	4.30
<b>G</b>	1.80
<b>X</b>	2.50
<b>X1</b>	6.80
<b>Y</b>	2.30

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